Viz Engine Release Notes

Version 5.6



Viz Engine

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  - C:\Program Files\[Product Name]
  - C:\ProgramData\[Product Name]
  - Any custom directory where [Product Name] stores data, and any specific process related to [Product Name].
- **Risk Acknowledgment:** Excluding certain folders/processes may improve performance, but also create an attack vector.
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- **False Positives:** If behavior-based detection flags a false positive, mark that executable as a trusted application.

Technical Support

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Created on

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        - NDI
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1 Viz Engine 5.6.0

Release Date: 2026-11-19

These are the release notes for Viz Engine version 5.6.0. This document describes the user-visible changes that have been made to the software since release 5.5.0.

ATTENTION: The Bundle Installer no longer includes WiBu Codemeter runtime.
See Viz Engine Release Notes

ATTENTION: The Bundle Installer no longer includes the Viz Maps Plugins (Viz World) plugin package.
The .msi is available separately on the ftp.

1.1 Installer Notes

1.1.1 General

The Software ships with a bundle installer. It is recommended to use the bundle installer when setup needs to be done manually.

- The Setup application (both MSI and Bundle installer) must be run in Administrator mode.
- Visual C++ Redistributable files are no longer part of the *.msi* setup file. These files are now installed with the bundle setup application (VIZENG-13210, VIZENG-12629, VIZENG-12701).
- The bundle setup application installs or upgrades Viz Artist together with its required Visual C++ Redistributable files (VIZENG-12936, VIZENG-13804).
- All files contained in the bundle setup application can be extracted using the `/dump` command line option. This creates a sub-folder where the files are extracted (VIZENG-13020).
- Multiple installations of Viz Engine are not supported.
- The installer automatically upgrades (replaces) any existing Viz Artist/Viz Engine 3.x installation. However, downgrading is currently not supported (VIZENG-7098).
- If Adobe After Effects is installed after Viz Engine, the Viz installer needs to be executed again to install the AE plug-in (VIZENG-7876).
- The user account must have *SeCreateGlobalPrivilege* (SE_CREATE_GLOBAL_NAME) enabled.
- The configuration profiles shipped with Viz Engine guarantee a correct Audio/Video delay, to have a proper lip-sync setup or a correct video wall installation. A manual configuration (for example, number of inputs, clips, etc.) is still required, after applying these profiles (VIZENG-18861).
- To use Global Illumination in Viz Artist/Viz Engine, at least Direct X version 9 is required. (VIZENG-19983).
- **Download the DirectX End-User Runtimes (June 2010)**:
  - Microsoft Download Link: Download DirectX End-User Runtimes (June 2010) from Official Microsoft Download Center
- **Extract the files**:
  - Run the downloaded *.exe* and select a folder for extraction.
  - After extraction, navigate to that folder and run *DXSETUP.exe*.
- **Complete the installation**:

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    - This installs all missing legacy DLLs, including *d3dx9_43.dll*.
- Basic, DataPool, PixelFX, Viz Extension and Viz Socialize plug-ins are released together with Viz Engine, starting with version 4.0.0, and are included in the bundle installer. The basic plug-ins are installed by default.

> **Note:** When installing Viz Engine with the individual MSI installer and not the Viz Artist Bundle installer, ensure all runtime dependencies are up-to-date (for example, Viz Engine does not start with an outdated Microsoft Visual C++ 2015-2022 Redistributable (x64) version). The minimum required version is 14.40.33810 (https://aka.ms/vs/17/release/vc_redist.x64.exe).
> If the installation fails with **error code 1638**, uninstall any existing MS Visual C++ Redistributable (x64) and restart Windows and rerun the bundle installer.
> If Microsoft Visual C++ 2015-2022 Redistributable (x64) - 14.40.33810 is already installed and Viz Engine is not starting, the runtime installation could be damaged. Reinstall the runtime redistributable in this case. The related installer is part of the Bundle installer.

1.1.2 Codemeter runtime

> Viz Engine Bundle installer no longer comes with Codemeter Runtime installation.

Codemeter runtime is a mandatory additional software component providing access to the WiBu Licensing subsystem. The tested Codemeter runtime version is 9.10, however if required a newer version can be installed. This mandatory component needs to be installed manually. Please download it manually or run

```
winget install --id Wibu-Systems.CodeMeterRuntimeKit -e
```

1.1.3 Windows

- This software was tested to run on Windows 11 (LTSC 24H2), Windows 10 (LTSC 21H2) and Server 2022 and Server 2025.
- Windows transparency effects should be turned off (former known as Aero). In Windows 10 set **Show transparency in Windows** to `Off` in **Settings > Display** and **Transparency effects** to `Off` in **Settings > Personalization > Colors > More options**.
- Power management and hibernation mode must be turned off under Windows. You can execute `powercfg -h off` to remove *hiberfil.sys* from the hard disk.
- It is recommended to install the latest Windows Security Updates and Patches.
- Installations on Windows 10 are only supported on their respective supported hardware (see Supported Systems).
- .NET framework 4.5 or higher is required (VIZENG-6036).
- The minimum Windows Installer version is now 5.0.0 (VIZENG-10146).

To run Viz Engine without Administrator privileges, you need to grant the following permissions:

- *SeIncreaseBasePriorityPrivilege*
- *SeCreateGlobalPrivilege*
- *SeCreatePagefilePrivilege*
- *SeIncreaseWorkingSetPrivilege*

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1.1.4 UAC

- Viz Engine is UAC aware. Configuration files, profiles, log files, and additional files are stored in %VIZ_PROGRAMDATA%, which defaults to %ProgramData%\Vizrt\VizEngine. Temporary data is stored in *%VIZ_TEMPDATA%* which defaults to *%TMP%\Vizrt\VizEngine*. The default value can be changed in the command line of *viz.exe*.
- Existing Lens files are copied from *%ProgramFiles%* install folder to the new UAC aware *%ProgramData%* folder during installation (VIZENG-8757).
- Existing Viz configuration files are copied from *%ProgramFiles%* install folder to the new UAC aware *%ProgramData%* folder during installation (VIZENG-7472).

1.1.5 Cinema 4D

- Cinema 4D LiveLink Installation: The installer searches the following location first: *%ProgramFiles%\MAXON\CINEMA 4D R16\plugins* (VIZENG-7965).
- Cinema 4D LiveLink package can be installed any time later by using Viz Artist Installer in Repair mode. Its installation folder is not selectable anymore (VIZENG-8996).
- Cinema 4D R23 or newer: LiveLink plug-in is available at *%ProgramFiles%\Vizrt\VizEngine\CINEMA 4D LiveLink\R23* (VIZENG-25344).

1.2 Driver Versions

These are the recommended driver versions for various hardware components:

Vendor	Driver Version
NVIDIA Blackwell, Ada Lovelace, Ampere and Turing GPUs	596.86
Matrox Topology based boards	11.2.102.2632 (LTS)
Bluefish	6.6.1.4
Bluefish Supernova Firmware	162
AJA	16.1.0.3 (Firmware 2021/06/23)
AV PCL/PCI Plura Timecode Reader	5.34

1.2.1 NVIDIA Drivers

Minimum recommended NVIDIA driver version is 596.86. If there is any security concerns about the CVE's you can upgrade to a newer version at your own risk.

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Viz Engine no longer warns if the installed driver is newer than the recommended one.

NVIDIA Driver Configuration (Manage 3D Settings):

Setting	
Vertical sync	Force Off (except Videowall and systems without video hardware).
Unified Back Buffer	Off
Power management mode	Prefer maximum performance
Antialiasing mode	Enhance the application setting
Antialiasing setting	4x (4xMS)
Profile	Workstation App - Dynamic Streaming profile (for systems with video hardware) 3D App - Video Editing (for systems without video hardware)

Information: Please refer to https://nvidia.custhelp.com/app/answers/detail/a_id/4777/~/nvidia-dch/standard-display-drivers-for-windows-10-faq for information about the DCH and Standard driver versions and how to install a missing NVIDIA control panel.

1.2.2 Matrox Drivers

- For Matrox video cards, driver version 11.2.102.2632 (LTS) is required. This version is mandatory. Pre-release versions are not supported.
- Uninstall previous versions of Matrox DSXUtils prior to installing this driver.
- Install drivers (*DSX-TopologyUtils.exe)* only from a local drive.
- Reboot between uninstall and install of drivers, and another time after the installation has finished.
- The VfW codecs are included in this driver, so uninstall previous versions of the Matrox VfW codecs and do not install any Matrox VfW codecs over the regular driver installation.

1.2.3 Other Drivers

- The latest firmware for Supernova and Supernova S+ is 162.
- The latest firmware for Neutron is 1i2o 35. There is no longer 1in1out firmware.
- The recommended firmware for AJA IO4K+ devices is 2021/06/23.
- The recommended driver version for Plura AV timecode reader cards is 5.34.

Please refer to the Viz Engine Administrator Guide for which drivers and driver settings to use.

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Given that a supported Matrox device is installed, the following codecs are supported for post-rendering with MatroxFileWriter and the ClipOut channels:

- RLE (animation), playback only
- H.264
- Apple ProRes
- HDV
- XDCam
- DVCPro
- DNxHD (4849)
- XAVC (UHD requires M264 board)

1.3 Upgrade Notes

- All plug-in installers are installed per-machine starting with 5.2.0. Uninstalling all previous per-user plug-in installations before upgrading is recommended to avoid duplicated installer entries.
- Existing Viz 3 configuration files, Genlock and IP configuration settings are migrated automatically by Viz Engine.
- The old Shared Memory output is not supported on the Viz Engine Pipeline.
- Due to changes in the video IO part, ring buffer size for interlaced virtual studio setups might require a higher ring buffer setting. Existing configuration file(s) might need to be adapted.
- The command interface is not locale-aware. Special regional settings like a semicolon within float numbers do not work. You need to use a regular "."

Information: Viz Engine is not forward-compatible. Opening scenes created in this version of Viz Engine might drop warnings when opening in previous versions. A scene saved with this version might look different if you open it in a previous version. This affects scenes containing more than four streaming channels.

1.3.1 Licensing Model

- The CodeMeter Runtime (mandatory additional software component) is required to use the WIBU license system.
  Details can be found in the manual in section "WIBU-based Licensing System".
  Please refer to the Vizrt Licensing documentation on how to apply a license container.
- Cloud-based installations require a license server; standalone cloud installations are not supported.

1.3.2 Other Upgrade Notes

- Lens distortion uses a slightly different norm since revision 54263. If you need older lens files, please use `use_lens_compatibility_mode = 1` in the config file.
- Viz Artist is now being started by the Viz Engine process and not by command file anymore. If you start *viz.exe* and *VizGui.exe* independently, the **Restart Current** option fails.

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A 64-bit version of each codec must be installed to work with Softclip64. Most codecs come with an installation manual on how to install them correctly.

Softclip64 has been tested to work with the following 64-bit codecs:

- HuvYuff Version 2.1.1
- Lagarith Version 1.3.27
- Newtek SpeedHQ

1.4 Virtual Environments

The following GPUs have been tested in virtualized environments, the listed driver version is the one being used. The following GPUs are currently supported.

Model	Driver	Platform
NVIDIA RTX PRO Server 6000 (Blackwell)	596.86	AWS (g7e instances) Proxmox 9.2.2 (12q instance)
NVIDIA RTX PRO Server 6000 (Blackwell)	596.86	AWS (g7 instances)
NVIDIA L4 (Ada)	596.86	AWS (g6 instances, gr6 instances)
NVIDIA L40S (Ada)		AWS (g6e instances)
NVIDIA A10G (Ampere)	596.86	AWS (g5 instances)
NVIDIA T4 (Turing)	596.86	AWS (g4dn instances)
NVIDIA A40	582.78	vSphere 8.0 (VGPU 19.6, 8q instance)
NVIDIA RTX6000	582.78	vSphere 8.0 (VGPU 19.6, 8q instance)

Viz Engine has been tested to run in the following virtual environments:

	Viz Engine Render Pipeline	Classic Render Pipeline
Amazon Cloud (AWS)		
Amazon EC2 G7e Instances	✅	

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	Viz Engine Render Pipeline	Classic Render Pipeline
Amazon EC2 G7 Instances	✅	
Amazon EC2 G6e Instances	(2)	
Amazon EC2 G6 Instances	✅	
Amazon EC2 G5 Instances	✅	
Amazon EC2 G4dn Instances	✅	
Amazon EC2 G3 Instances	✅	✅
Microsoft Azure (1)		
• Standard_NCv3 Series • Standard NV Series	✅ ✅	✅
Nutanix (1)	not tested	✅
VMWare ESXi (6.0(1), 6.50(1), 7.02, 8.0.2)	✅	✅
Alibaba Cloud (1)	not tested	✅

(1) Tested with Engine 5.0.0 only

(2) Due to unavailability no physical test could have been executed, however no limitations are expected.

⚠ **Note:** Backup and Restore on Azure systems are currently not supported.

1.5 New Features

1.5.1 Key Features

Summary	Key
VizEngine-5.6.0 - Gaussian Splatting	VIZENG-35542
Unreal Engine 5.8: Composure Plugin Support	VIZENG-35116

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Summary	Key
Viz Engine 5.6.0 - HDR Improvements	VIZENG-34737
VizEngine-5.6.0 - Renderer Improvements	VIZENG-34706
VizEngine-5.6.0 - Maps Shape Rendering	VIZENG-32753
VizEngine-5.6.0 - Maps Smart Labels	VIZENG-32717
VizEngine-5.6.0 - Maps Tile Rendering	VIZENG-32216
VizEngine-5.6.0 - Native Maps Transformation Modes	VIZENG-30120

1.5.2 New Features: General

Summary	Key
Expose tracing to plugin api	VIZENG-35790
Launch AI Keyer directly from Viz Engine	VIZENG-35077
Per Camera Color Correction LUT	VIZENG-35133
Reveal VCF Camera attribute to VizScript	VIZENG-34991
Transition shader: Pass in transition direction	VIZENG-31259
Upgrade libCEF to v150	VIZENG-35585
VizOne clip preview for Pilot Edge workflow	VIZENG-35558

1.5.3 New Features: Renderer

Summary	Key
Add new deformation mode for handling more correct center shift in "Internal Tracking Mode"	VIZENG-34063
Add Superchannel support to Unreal Engine	VIZENG-35595
Add support for Unreal Engine 5.7	VIZENG-34086

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Summary	Key
Add support for Unreal Engine 5.8	VIZENG-35053
Add Texture Previews to Unreal Engine to facilitate keying on projects	VIZENG-34738
Allow changing the font face by name in VSL	VIZENG-34260
Color Correction of FG within MultiLayer External XR sequence	VIZENG-35765
Deprecate viz_getGlyphAlpha	VIZENG-32961
Extend the camera stats overlay	VIZENG-34786
External XR Rendersequence supporting LUT correction	VIZENG-35702
HDR: mipmap generation in linear space	VIZENG-33810
Improve Boundbox draw performance	VIZENG-35663
Invisible material needs normal and roughness maps to get more realistic reflection	VIZENG-34347
Per Camera Color Correction LUT	VIZENG-35133
Renderer: TAA improvements	VIZENG-35842
Spacing issue for arabic fonts use as complex script.	VIZENG-35361
Store Texture Renderer files in the same folder as GEOM's	VIZENG-34457
Support Gradient Plugin in Viz Engine Renderer	VIZENG-35616

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Summary	Key
support SSR Foreground in Multi-Layer VS	VIZENG-34904
Text: support full-text editing	VIZENG-34259
Texture Blur	VIZENG-33162
TextureSlot: add color support	VIZENG-35591
Visualize the tracking data and timing in a render overlay	VIZENG-34678
Viz Engine Renderer: Video out Still Preview Support	VIZENG-27870
XR Draw - Start/Stop drawing should not connect new points to last drawn one.	VIZENG-34623

1.5.4 New Features: Video IO

Summary	Key
Support of NDI 2100 HLG output together with the Matrox	VIZENG-35659
Support for HAPR	VIZENG-35643
NDI Output: support NDI HX (H.264 encoded on the NVIDIA GPU)	VIZENG-35439
Buffer Matrox inputs for rendering	VIZENG-35038
Implement scene-independent SMURF timecode input	VIZENG-34788
Support HAP Q Alpha (HapM) in the VML clip player	VIZENG-32515
Change Audio Backend on EAS	VIZENG-29680

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1.6 Fixed Issues

1.6.1 Fixed Issues: General

Summary	Key
Scene with Superchannel and assigned scene will show additional GFX after save_as	VIZENG-36264
Engine crashes when searching for shader	VIZENG-36118
Artist not reading custom control field descriptions	VIZENG-35937
Control channels order not respected when using with subscene	VIZENG-35845
Graphics disappear in ONAIR mode if the engine doesn't receive tracking data in Trackmen mode	VIZENG-35739
Control Channels don't collapse and migrate with the geometry	VIZENG-35709
Increased NLE render time with clip channels enabled	VIZENG-35683
MatroxFileWriter Post Render templates don't load correctly when switchting between them	VIZENG-35671
Escaped semicolon (\;) at the last delimiter position is not honoured in action keyframes — off-by-one in KeyframeAction::Execute()	VIZENG-35578
Significant increased render time with the PNGRenderer plugin	VIZENG-35527
Wrong group/ungroup behavior with subscenes and control channels	VIZENG-35416
Increased scene import time via Trio	VIZENG-35275
Engine doesn't start when using invalid clip data directory	VIZENG-35082

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Summary	Key
SLERP Interpolation (VCF) leads to camera jump when panning past 90 degrees	VIZENG-35034
Stage flickers black when Windows scaling is above 100%	VIZENG-34980
Shader transition inside Superchannel acts on full screen	VIZENG-34121
Disabled geometries still update their subtree on UpdateLocalData	VIZENG-33186
Client uses additional license with every unreachable state of the license server	VIZENG-32109

1.6.2 Fixed Issues: Renderer

Summary	Key
Empty Geometry shown	VIZENG-36166
VER: GFXChannels not updated when moving out of bounds	VIZENG-36138
Issue with pilot preview when transferring images	VIZENG-36126
Scene goes black on changing Alpha to 0 on a shadow caster	VIZENG-36125
async processing: <container>*GEOMETRY*DETAIL can be out-of-sync in GfxChannels	VIZENG-36114
Control channel not working properly with text properties	VIZENG-35829
SceneView Texture renderer doesn't get displayed correctly	VIZENG-35797
Glow plugin behaves unexpected with overlapping objects	VIZENG-35094

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Summary	Key
RealityConnect: Wrong reflection with panned camera	VIZENG-34854
Potential engine crash setting text.utf8text via VSL	VIZENG-32618

1.6.3 Fixed Issues: Video IO

Summary	Key
Black flashes on playing clips when the engine drops a field (interlaced output)	VIZENG-36146
ClipPlayer Texture Renderer doesn't play clip in TL Master scene if the Frame Number is animated in the Leaf scene	VIZENG-35866
Post renderering scene with clip shows only the last frame of the clip	VIZENG-35859
Use left chroma siting for YUV subsampling in output shader	VIZENG-35495
VML Clip Player misinterprets 50 FPS Apple ProRes media as 25 FPS in Viz Engine	VIZENG-35130
Clip starts playing too early in scenes with multiple clips in a channel	VIZENG-34936
Show Black Before Start doesn't work if it's disabled for After End	VIZENG-34903
ST 2110 audio and ancillary data connectors are allocated even when not configured	VIZENG-34604

1.7 Security Updates

Summary	Key
jQuery version used for the REST web interface has reached the end of life (EOL)	VIZENG-35062

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Summary	Key
Upgrade OpenEXR due to High-rated CVEs	VIZENG-34498
Upgrade Protocol Buffers due to CVEs rated High	VIZENG-33938
Upgrade CURL due to CVE-2024-6197	VIZENG-33937
Upgrade GRPC due to CVE-2024-7246	VIZENG-33936

1.8 Changes

1.8.1 Upcoming Changes

-

1.8.2 Changes: General

- *ChromaFX* license has been renamed to *Precision Keyer*.
- Engine sync events for Tracking Hub synchronization are only triggered when use_trackinghub is enabled in the config.

1.8.3 Changes: Renderer

- Adaptive Scenes with Flexbox plugin: The underlaying framework introduced a new algorithm used for absolute positioning. Therefore minor changes in lay outing are expected.
- Using Tracking Hub is now enabled by default in Configuration.

1.8.4 Changes: VideoIO

Note: The Matrox channel mapping format has been updated in the configuration file. Old config files are migrated automatically during startup.

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1.9 Known Issues

1.9.1 General

- The final position and size of scaled image channels in DVE mode might change by 1 pixel after fixing rounding issues.
- Saving a new scene with references that do not exist anymore fails. Those references need to be removed manually to save the scene.
- Importing HDR images with special characters in its file name from a drive with 8dot3 disabled fails.
- Transition Logic scenes require to have GeomAutoFree = 1 set in the Viz Config file. With inactive GeomAutoFree, system stability is not guaranteed.
- Interactive Applications within a GFX channel only work in DVE mode in Fullscreen or if the GFX channel has an offset in Fullscreen. Scaled GFX channels or plug-ins that rely on screen coordinates (Graffiti) are not supported.
- Bones and Skin live motion data tracking requires Tracking Hub 1.1.2 (released together with Viz Engine 3.11).
- Viz Engine REST interface does not start if a user is Non-Admin (VIZENG-23386).
- On Air output shows wrong field-of-view if AuxRenderer is enabled, PP in scene editor is disabled and Viz Engine is not in On Air mode.
- The Toggle plug-in can not handle the background loading of objects or scenes.
- Oversized snapshot requests (bigger than the configured output resolution) in the Classic Render Pipeline aren't supported. Use the Viz Engine Render Pipeline instead.
- The `clog` command now includes all child processes. Upon abnormal end, all child processes are terminated before a restart is attempted (VIZENG-11361).
- Scaling directors down can cause keyframes to be scaled down to 0.0. These values do not recover when scaling directors up again afterwards (VIZENG-31610).

Summary	Key
AJA IO: Embedded Audio only available if SDI Input enabled	VIZENG-27515
Changing Spline types is not considered in Undo/Redo	VIZENG-32400
Enable individual volume control for tracks	VIZENG-27866
GH Sync: support main/replication setup	VIZENG-28344

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Summary	Key
Improve Undo/Redo performance on larger GI scenes	VIZENG-30569
Improve VizEngine startup time	VIZENG-24017
Maya 2024 doesn't support Viz Maya plugin	VIZENG-29589
Render output freezes after engine command when connected to a remote GraphicHub	VIZENG-35162
Saving a scene with an Orthographic camera changes the viewport	VIZENG-36106
Stop/Pause/Tags are not considered in Undo/Redo	VIZENG-32399
Trio scroll only shows the default content	VIZENG-36301
Used lens distortion parameters not in sync with main scene	VIZENG-26964
VizEngine does not always switch back to GH main after main shutdown and startup	VIZENG-33601

1.9.2 Installation

- Do not use the C4D Version 15R2 patch file(s) unless you are using this version. Otherwise, it prevents Cinema 4D R16 from starting up.
- When uninstalling Viz Engine, the installer might report that links could not be removed. Please check that none of the *desktop.ini* files of Windows have write protection. For example, Skype seems to change the permissions of some *desktop.ini* files with every update.

1.9.3 Windows 10

- Right-clicking on the Taskbar icon of Viz Engine starts a new instance. Starting an additional VizGui process is prevented on Windows 10.
- Error message "Windows Media Player Rich Preview Handler has stopped working while opening specific clips with Softclip x64". To fix open **Windows Explorer > Tools > Folder options > View tab**, and deselect *Show preview handlers* in the preview pane.

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1.9.4 Videowall

- It might happen that Viz Engine is running at half speed on videowall, but goes back to full speed if another window comes into focus. If so, start `viz.exe -y -w`, instead of the regular videowall mode `viz.exe -n -w`.
- GFX channels with Alpha != 100% decrease render performance. On video wall setup, `gfx_channels_antialiased = 0` should be turned off in the Viz Configuration section **RENDER_OPTIONS**.
- Windows scaling can lead to unwanted side effects.
- The maximum resolution on videowall setups is limited to 16392px by 16392px.
- Enabling video output for audio setups is not recommended for performance reasons. It is recommended to grab the audio from one of the HDMI/DP outputs of the NVIDIA GPU and use an Audio embedder instead.

1.9.5 Configuration

- Specifying a path in the configuration file including the # character is not supported. Such paths are cut before the # character.

1.9.6 Viz Engine Render Pipeline

- Existing Scenes using Global Illumination might need a precompute again to enable debug views.
- Background loading of external images (filesystem, network locations, etc.) is not supported. Images from Graphic Hub should be used.
- Flexbox labels in Scene Editor do not support Unicode characters.

1.9.7 Classic Render Pipeline

- Scene Transitions within GFX channels or Superchannels are not supported.
- Soft Shadow intensity is currently not working together with Global Illumination.
- We recommend using a warmup scene showing all needed assets once. Under certain circumstances, video and clip surfaces can show up red the first time being used.
- Playing Audio clips on systems with no physical audio hardware available stops the renderer. You need to turn off audio in the configuration file.
- On some systems with hybrid graphics, like laptops, the dynamic swapping must be disabled in the BIOS and the stronger GPU must be assigned as default.
- Stencil-based shadows (Caster/Receiver) do not work on rotated geometry.
- When changing `CurlAuthUnsafe = 1`, Viz One Browser does not work anymore.
- VGA Fullscreen Output is only active if offscreen rendering is turned off. Setting `offscreen=0` in section RENDER_OPTIONS enables fullscreen output.
- Blending cubemapped images are not supported.
- Cubemapping with Browser plug-in is not supported.
- Fonts need to be re-imported to use new Pathrendering or Razor fonts technology.
- Masks are not supported on Path rendered Fonts (VIZENG-13737).

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- Do not send other commands than `IS_RENDERER_READY` and database connection commands before this command returns `1`, otherwise the renderer and video output might not be initialized.
- If you encounter stability issues with an NVIDIA driver or issues during driver installation, uninstall the old NVIDIA driver completely, delete the folder *C:\Program Files\NVIDIA Corporation\Installer2*, install the new driver and select **Custom installation**, then check-mark the perform clean installation option and finish the installation.
- Enabling background loading might decrease the render performance by up to 15 frames per second. This is due to OpenGL requirements.
- M-Zone keyer only works with HD when rendering with full frames.
- Decreased render performance in HD since Viz Engine 3.5.0 when the ringing filter is activated. Before Viz Engine version 3.5.1 there was no ringing filter for HD. Turn off the ringing filter via configuration or scene-setting to get the same performance.
- Sporadic NVIDIA driver error The NVIDIA OpenGL driver lost connection with the display driver and is unable to continue. which in turn causes Viz Engine to freeze. Make sure that the driver profile **Workstation App > Dynamic Streaming** is selected. Always use the recommended NVIDIA driver for your GPU.
- Possible performance problems with scenes imported from Viz Engine 2.x. Check the following settings (applies to old 2.x scenes only):
    - Image Combining should be set to Multi Texturing in the Render options in the configuration (or flag `combine_with_multitex = 1` in the configuration file) to avoid inefficient image combining.
    - Set Key Render Mode to Single Pass in the rendering options in the configuration. The Key Render Mode can also be set on scene level. Available options are:
        - Config (inherit the setting from the configuration).
        - Single Pass (fill and key are rendered in a single pass).
        - Double Pass (fill and key are rendered in separate rendering passes).
          Key rendering results differ between these options for compatibility reasons.
- Use Single Pass scenes imported from Viz Engine 2.x and Double Pass for Viz Engine 3.x scenes.
- The configuration flag `exec_all_animations` in the section RENDER_OPTIONS should be set to `0` if it is not necessary to execute hidden animations.
- Turn off the VGA preview in On Air mode to avoid performance drops due to multiple rendering of the scene (applies only to video version of Viz Engine).
- Hide containers that are not required for the current animation.
- Re-import fonts directly with the Viz Engine.
- Grid picking currently only works for Cube and Cylinder geometry.
- The behavior of scripts with cyclic dependencies to other scripts is undefined. Avoid cyclic dependencies.
- Bad performance when using multiple dynamic scenes, even if they are set inactive. To avoid unnecessary updates, change the **Update mode** in **Dynamic Scenes** to *Auto* instead of *Always*.
- `CLR LOAD` command can crash Viz if not used correctly. Required function signature: static int pwzMethodName(String pwzArgument).
- Alpha setting for DVEs is not correctly supported when a scene is used nested using a GFX channel (VIZENG-10212).
- Glow plug-in drops performance when used on multiple containers and rendered within a GFX channel or viewport tile (Classic pipeline) (VIZENG-11342).

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- Scene transitions do not work when dynamic images from different folders are involved. Dynamic images always need to be stored directly in the root folder *dynamic* and references must point there. Dynamic images in a subfolder of the dynamic folder or any other folder are not found.
- Font option "lighted" has no effect on fonts rendered with type "vector" (VIZENG-18941)
- 16-bit PNG images are not rendered properly when imported with compression.

1.9.8 Unreal Integration

Note: It is not advisable to utilize the Unreal integration in production environments outside of Game Mode. For instructions on how to initiate Unreal in Game Mode, please consult the Viz Artist User Guide Chapter **Third Party Integrations**.

- Unreal Engine 5.x with Temporal Super Resolution (TSR) enabled can lead to flicker issues when used in combination with NVIDIA Driver 528.89. Changing to FXAA solves the issue.

1.9.9 Post Renderer

- Because of performance issues rendering fullscreen sequences in UHD is not supported.
- Ghosting effect in post-rendered interlaced video: Make sure that the Flicker Filter is set to `0` in the post-rendering options of the Video Render plug-in.
- Post-rendering does not work properly if `onair_no_videoout flag = 1` (Videowall mode).
- Post-rendering does not work properly if TriCaster integration is active and the output format is set to User Defined or Fullscreen.
- DVCPRO expects 720x480 in NTSC resolution. Please set the correct output width in AVIRenderer.
- The alpha channel cannot be rendered with Intel Indeo 5.10 codec. This codec is not supported.
- Viz Engine might crash if certain VfW codecs are used on non-Matrox installations in Post Render Mode.

1.9.10 Matrox

Important: When upgrading from 10.4 to 11.x Matrox driver, follow these mandatory steps:

- Uninstall old Matrox driver
- Cold Boot (Turn off computer for at least 20 seconds)
- Switch Computer on
- Continue installation of new driver

- Enable Hardware DVE/(Fast Texture Mode) is only available for two instances.
- The configuration ClipIn[n].UseV210 and ClipIn1. ContainsAlpha are mutually exclusive and should not be enabled at the same time.
- The overall delay is one field higher than in previous versions using IO3 This is caused by the required A/B buffer of IO 4.
- A program output channel needs to be defined. Pure preview or Cleanfeed is not supported.
- Large Canvas setups require a RTX5000 Ada or higher.
- Mixing different frame rates with clips processed by a M.264 board is not supported and causes jittering.

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- Upgrading the FPGA can cause a PCI error during the boot process on certain systems. Unattended upgrading of the FPGA is not recommended.
- Watchdog is only supported in 50/60M and 60Hz frequencies.
- When using 3G formats (1080p/UHD) or the Zero-Frame-Delay Mixer, auto-sensing of the sync signal is not supported due to incompatible H-/V-phases, that are set in the process.
- Instead, either Tri-Level or Blackburst must be used together with correct H-/V-Phase. This might result in a missing key signal (VIZENG-11708).
- For dual channel systems, please perform the following steps after enabling the watchdog to ensure the correct state is written to the Matrox Board:
    a. Start Channel 1.
    b. Wait until channel has started up and topology has been written.
    c. Start Channel 2.
    d. Wait until channel has started up and topology has been written.
    e. Exit channel 2.
    f. Exit channel 1.
    g. Start channel 1.
    h. Wait until channel has started up and topology has been written.
    i. Start channel 2.
- ClipOut channel does not work when Matrox0.VideoOut1.FrameBufferDelay is set to zero (VIZENG-16373).
- UHD Clip Playback with M264 S1/S2/S3 *alone* requires color conversion on the shader level. (VIZENG-20700).
- Two Sample Interleave (2SI) clips played as DVE are not supported.
- Cutting of Audio tracks should not be done at all, as this results in a crackling noise. Always use a cross-fade to change audio sources.
- Certain M4V clips may cause Viz Engine to lock and flood the console with errors when being played in a loop.
- Running interlaced AVC-Intra 100 clips on M.264 boards may lead to instabilities when played non-stop over several hours.
- Always verify the Destination Connector when changing/adding configurations of output channels.

1.9.11 X.mio3 Boards

- If the Viz instance is closed unexpectedly, the X.mio3 topology might become unusable. To reset the topology, enable ResetTopology in the config file, restart Viz, close it and start Viz again.
- Turning on the Cleanfeed Feature increases the delay by one frame.
- It is not recommended to change the frame group of any input signal while Viz Engine is running.
- Only two DVE UHD inputs are supported at 50Hz. For 60M formats, only two texture inputs are supported.
- Animating UHD DVE scaling might result in jittering. You need to increase the VideoDelayDVE setting to `2`.
- Texture delay with PAL/NTSC, and Enable Hardware DVE is five fields instead of four fields. (VIZENG-16955).
- When using watchdog together with a clean feed, the watchdog triggers on the clean feed connector rather than the program output (VIZENG-16589).

1.9.12 X.mio5 Boards

- Standard Definition (PAL and NTSC) resolutions are not supported by X.mio5 IP boards according to the SMPTE ST 2110 standard.

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- Streampunk ledger RDS does not list the Matrox X.mio5 nodes. This is due to some old NMOS APIs that are partially deprecated.
- Riedel Explorer fails listing the X.mio5 nodes. Riedel Explorer automatically selects NMOS API Version 1.3 instead of 1.2. It is possible to select the used API version manually if you switch to static mode and/or enable version downgrade in the Riedel Explorer.

The X.mio5 board has been tested to support up to 12 Inputs (1080i 50 and 60M) on a 10GbE network.

1.9.13 DSX.core

After the installation of the DSX-core client version of the driver perform the following steps:

1. Unregister *mvfDsxCore.dll*.
    a. Click **Start > Run** (or use the Windows command line: **Search > CMD >** (Right click) **Run as Administrator**)
    b. Type `REGSVR32 /U "C:\Program Files\Matrox DSX-TopologyUtils\System64\mvfDsxCore.dll"` and press **ENTER**.
2. Shut down X.info in the task manager (mveXinfo.exe).
3. Delete *mvfDsxCore.dll* from the folder *C:\Program Files\Matrox DSX-TopologyUtils\System64*.
4. Start X.info *(mveXinfo.exe).*

1.9.14 Other Video Boards

- When Viz Engine is in On Air mode, there might be audio distortions using Bluefish cards (VIZENG-8853).
- Bluefish Supernova S+ cards can only be used in a Virtual Set Environment if the board is synced to Blackburst/Trilevel.

1.9.15 NDI

Security Updates **Windows 11 – KB5063878** and **Windows 10 – KB5063709** can lead to traffic drops in NDI output.

1.9.16 NVIDIA

- When the computer is running out of virtual page size and the user keeps ignoring the low memory warnings in the console, the NVIDIA driver may cause Viz Engine to crash.
- The NVIDIA driver doesn't recognize other GPUs under certain circumstances in combination with video wall mosaic installations. Remove and reinstall the driver.

1.9.17 Graphic Hub

- Communication with the Graphic Hub Server might fail if virtual network adapters are active. Please disable all virtual adapters or increase the timeout.
- If the connection to the naming server fails, please verify the communication port in the config file (Port `19396`).

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1.9.18 Adaptive Scene Design

- WindowMask plug-in prevents Flexbox labels from being picked.

1.9.19 Audio

- Unplugging a USB microphone from the machine while EAS is enabled freezes Viz Engine without the possibility to recover (VIZENG-29571).

1.10 Supported Hardware and Software

This software has been tested to run on:

- Windows 11 (LTSC 2402)
- Windows 10 (LTSC 21H2)
- Windows Server 2025, Windows Server 2022

> **Note:** Only English language Operating System(s) are supported.

1.10.1 Supported Systems

System
Lenovo P3 Ultra / Lenovo P3 Ultra Gen2
Lenovo P620
Lenovo SR655 V3
HP Z8 Fury G6i
HP Z4 G6i (Tower)
HP Z8 G5 Fury
HP Z4 G5 (Rack and Tower)

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1.10.2 Supported GPUs

Blackwell GPUs	Ada Lovelace GPUs	Ampere GPUs	Turing GPUs
Blackwell 6000 Max Q Blackwell 5000	RTX 6000 Ada	RTX A6000	RTX 6000
Blackwell RTX 4000 Pro Blackwell RTX 2000 Pro	RTX 5000 Ada	RTX A5500	RTX 5000
Mobile GPUs Blackwell RTX 2000 Pro Blackwell RTX 3000 Pro Blackwell RTX 4000 Pro Blackwell RTX 5000 Pro	RTX 4500 Ada	RTX A5000	RTX 4000
	RTX 4000 Ada SFF	RTX A4500	RTX 3000
	RTX 2000 Ada	RTX A4000	T1000
		RTX A2000	
		RTX A3000 (mobile)	
		RTX A2000 (mobile)	
		RTX A1000 (mobile)	
Orange entries are recommended for rendering photo-realistic graphics on the Viz Engine Pipeline.			

1.10.3 Supported Video Boards

Video Board	Configuration
Matrox Electronic Systems Ltd	
Matrox X.mio5/X2 SDI	Up to four 12G SDI input with up to four SDI 12G SDI outputs variable configuration from 12in0out to 0in12out

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Video Board	Configuration
Matrox X.mio5/8 SDI	Up to four 12G SDI input with up to four SDI 12G SDI outputs variable configuration from 8in0out to 0in8out
Matrox X.mio5 IP	Up to 32 ST 2110 inputs and 32 ST 2110 outputs depending on used SFPs and resolution
Matrox X.mio3 Full Height	Various input/output configurations from 48 to 84
Matrox X.mio3 12G	Two 12G inputs, two 12G outputs
Matrox M.264 S1/S2/S3/S4	H.264 Encoder/Decoder board
Matrox DSX LE 5L /4	Various input/output configurations from 04 to 40, all in 12G
Matrox DSX LE 4 /8	Various input/output configurations from 08 to 80
Matrox DSX LE 4 /4	Various input/output configurations from 04 to 40
Matrox DSX LE 4 IP	Various input/output configurations from 04 to 40
BlueFish Technologies	
Bluefish Epoch Neutron	Two video inputs, two video outputs (fill & key)
Bluefish Epoch 4K Supernova	Two video inputs, two video outputs (fill & key)
Bluefish Epoch Supernova S+	Two video inputs, two video outputs (fill & key)
Bluefish Kronos K8	Four video inputs, two video outputs (fill & key)
AJA Video Systems, Inc.	
AJA IO4K Plus	Two video inputs, two video outputs (fill & key)
AJA Kona 4	Two video inputs, two video outputs (fill & key)

Please refer to the Viz Engine Administrator Guide for which drivers and driver settings to use.

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1.11 Build Information

Platform Toolset: Visual Studio 2022 (v143)
Windows SDK Version: 10.0.22621

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2 Documentation

Info: Starting with Viz Artist/Viz Engine 5.4.0, the installer no longer installs the Viz Artist User Guide, Viz Engine Administrator Guide or Viz Plugins User Guide as offline documentation.

Documentation for Viz Engine, Viz Artist and Viz Plugins is available online on the Vizrt Documentation Center:

- Viz Artist User Guide
- Viz Engine Administrator Guide
- Viz Plugins User Guide

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3 Installation and Support

3.1 Installation

The installation wizard guides you through the installation process. Make sure to close any running Viz application prior to the installation. In order to run Viz Artist or Viz Engine independent of a database server, you need to install the Viz Graphic Hub database software locally.

3.2 Support

Support is available at the Vizrt Support Portal.

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